



Vacuum Leak on Tetra Ethyl Lead System



Impact ERM: 37491

Location:
Richmond Refinery

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Flange connection to the railcar.



Actual tilt toward stern of the car.

**Every Task...
The Right Way...
Every Time.**

Situation:

On 5/12/2012, Blending and Shipping's Ethyl Plant was set up to complete a railcar offload. The railcar was onsite at the plant with 43,000 lbs of lead to be offloaded into T-3214.

After inspecting the car and making the railcar connection, the field Operator checked the offloading system for vacuum leaks using established procedures. During this process, it was discovered that due to recent modifications the fall protection cage interfered with the railcar flange connection and it was slightly cocked, which caused a pinch on one side of the flange face that served as the railcar connection.

This uneven bite on the tongue and groove flange connection cut the graphite gasket, which allowed the system to leak vacuum. Work was stopped until appropriate corrections were made.

What worked well:

- Operations used established procedures to perform this Critical Tank Field Operation.
- Stop Work Authority was utilized when it was understood that safety systems would need to be bypassed in order to make an air tight connection.
- The plant was shutdown and placed in a safe condition until all of the issues were addressed before attempting to offload the railcar.
- With the proper maintenance support, the car was staged for access that allowed for the proper connection to the railcar without the fall protection cage interfering with the set up.

Recommendations:

- We should always approach our work with a sense of caution. Our equipment and work processes are complex and can change without notice or due to the particular situation. Use established procedures and do not deviate or bypass safety devices without involving the right people and resources.
- Use Stop Work Authority. SWA can, and in this instance, may have, prevented a more significant incident at the Ethyl Plant.
- Follow Refining Tenets: Involve subject matter experts to help troubleshoot unknown or abnormal conditions.

Tenets of Operations DISPLAYED

2. **Always** operate in a safe and controlled condition.
8. **Always** address abnormal conditions.
10. **Always** involve the right people in decisions that affect procedure and equipment.

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